

## Abstract Of The Invention

The System-on-Chip (SOC) interconnection apparatus and system discloses an internal switching fabric that interconnects, via standard connection ports, one or more requestors and one or more addressable targets on a single semiconductor integrated circuit. Each target has a unique address space, may or may not have internal arbitration, and may be resident (i.e., on-chip) memory, a memory controller for resident or off-chip memory, an addressable bridge to a device, system, or subsystem, or any combination thereof. Targets and requestors are connected to the internal switching fabric using target and requestor connection ports. The internal switching fabric routes signals between requestors and targets using one or more decoder/router elements that determine which target is the designated target using an internal system memory map. Dedicated arbiters may be included for targets without internal arbitration.